Chronic obstructive pulmonary disease is a major and escalating cause of morbidity and death throughout the world, representing a substantial economic and social threat. Smoking is quantitatively the most important risk factor, highlighting that the disease is largely preventable. From a public health perspective, the burden of the disease has been underestimated due to both the unavailability of a consensual “gold-standard” definition and underrecognition of the disease by physicians. Symptoms are nonspecific and can be attributable to concurrent co-morbidities.

Our main purpose was to measure the prevalence of spirometric obstructive pattern (defined as FEV1/FVC<70%) in Portugal, a country at a relatively early stage of the smoking epidemic and to assess the impact of obstructive lung disease on dyspnoea and fatigue at the population level. Additionally, we determined the prevalence of self-reported obstructive lung disease in subjects with and without obstructive changes to assess the agreement between objectively documented obstructive pattern and self-reported disease.

In a population-based health and nutrition survey of 2485 urban adults, representative of the adult population of Porto, Portugal, a subsample of 758 subjects aged 40 years or older with a reliable curve in spirometry was evaluated at baseline to measure the prevalence of spirometric obstructive pattern. As part of a follow-up evaluation of this cohort, 1136 subjects aged over 45 years were assessed. All participants underwent a clinical interview, a spirometry and an echocardiogram. Dyspnoea was self-reported and fatigue was measured using Krupp’s Fatigue Severity Scale. The impact of obstructive lung disease on dyspnoea and fatigue was measured by an estimated population attributable fraction, adjusting for age, education, cardiac dysfunction and obesity.

The overall prevalence of spirometric obstructive pattern was 10.7% (95% confidence interval: 8.6-13.1), similar in men and women. Moderate obstruction was
documented in the majority of participants with obstructive pattern. Obstructive changes were highly prevalent in older men reporting a history of current or previous tobacco exposure. The agreement between spirometric obstructive pattern and self-reported previous medical diagnosis of obstructive lung disease was low [kappa=0.14 (95% confidence interval: 0.07-0.20)], confirming the limited validity of using self-reported information on obstructive lung disease in epidemiological studies. In Portugal, if the smoking epidemic keeps on mirroring that of other European countries, we can anticipate a progressive burden of the disease in women.

Dyspnoea and fatigue were prevalent symptoms, particularly among women. Obstructive lung disease was present in a small proportion of symptomatic subjects, having a modest impact on dyspnoea and fatigue. Among women, obstructive lung disease had a similar impact on dyspnoea [population attributable fraction=5.0% (95% confidence interval: 0.2-10.0)] and fatigue [population attributable fraction=4.4% (95% confidence interval: 0.7-8.0)]. Among men, obstructive lung disease was responsible for 22.5% (95% confidence interval: 10.0-35.0) cases of dyspnoea, while it was not associated with fatigue. Alternative conditions with greater impact on symptoms should be sought using a diagnostic work up strategy that must include spirometry.